Figure 1 1. N CH₃ ОН OCH₃ ОН OR₂ HÓ OCH₃ R₁O HO 1, $R_1 = R_2 = H$ 2, $R_1 = R_2 = COCH_3$ 3 5 ОН HO $(CH_2)_3CH_3$ NH₂ ≽_{NH} POH HN≓ ОН HN ΝH o., όн ,o,, HÓ ÓН H'Z' HO 6

7

13

HO

...CH₃ **⊸**CH₃

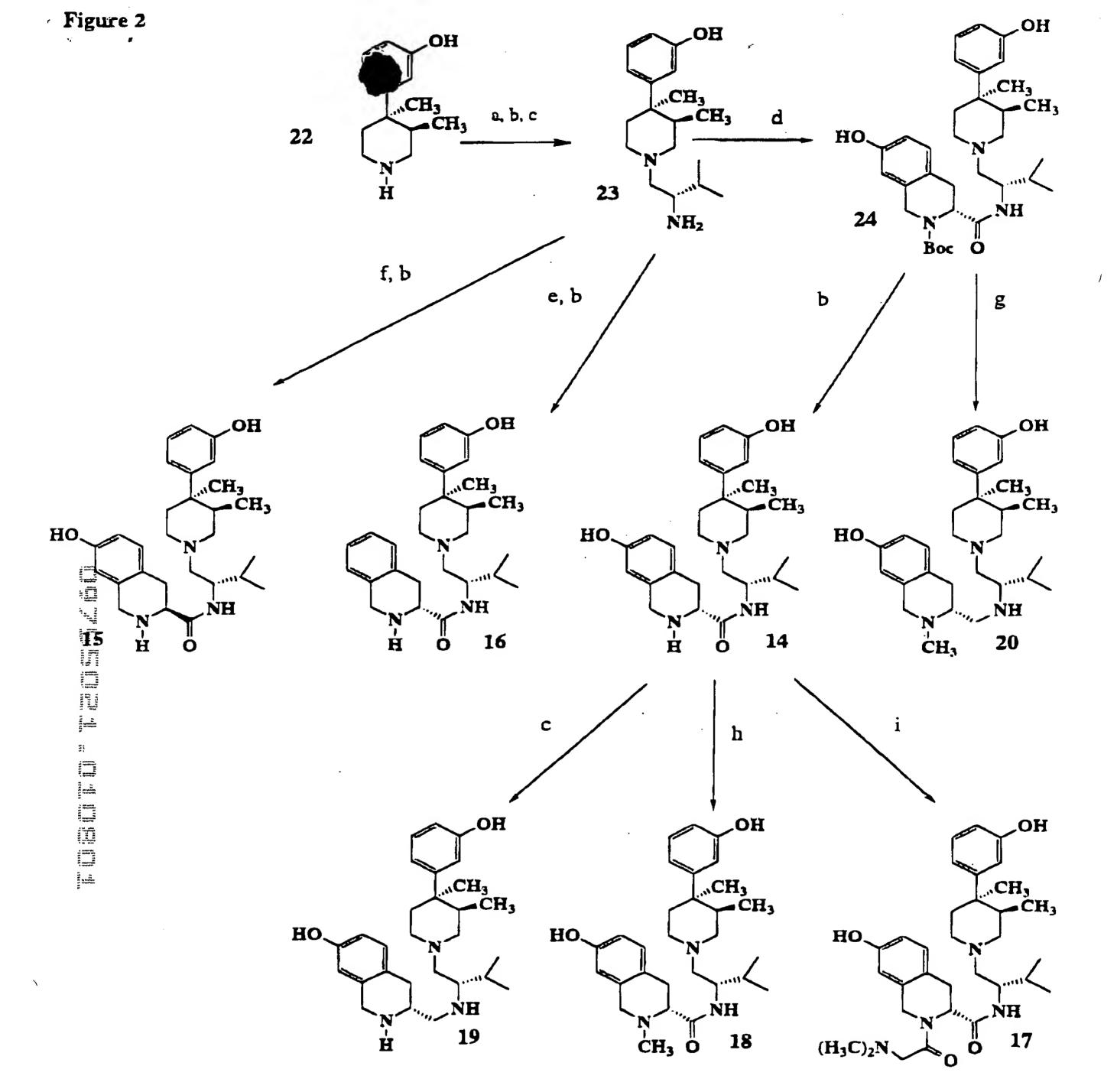
HO. ...CH₃ CH₃ 10

8

19

Figure 1 (c ntinued) HO. HO. HO. CH₃ ∴CH₃ →CH₃ **⊸**ČH₃ ΝH CH₃ O 17 (H₃C)₂N 18 16 OH OH. HO. CH₃ "CH₃ ⊸CH₃ "CH₃ H₃C₄ HO NH ... _ NH CH₃ 21

20



Reagents: (a) Boc-L-valine, BOP, TEA, THF; (b) TFA, CH₂Cl₂; (c) borane/dimethyl sulfide; (d) Boc-D-7-hydroxy-1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid, BOP, TEA, THF; (e) Boc-D-1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid, BOP, TEA, THF; (f) Boc-L-7-hydroxy-1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid, BOP, TEA, THF; (g) Lithium aluminum hydride, THF; (h) formalin, NaBH(OAc)₃, dichloroethane; (i) N,N-dimethylglycine, BOP, TEA, THF

Reagents: (a) Boc-L-valine, BOP, TEA, THF; (b) TFA, CH₂Cl₂; (c) borane/dimethyl sulfide; (d) Boc-D-7-hydroxy-1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid, BOP, TEA, THF